CLAIMS

1. An air conditioner (10, 110, 210, 220) that processes a latent heat load and a sensible heat load by using a vapor compression refrigeration cycle with a compressor (7, 101, 221), the air conditioner comprising:

a heat exchanger (3, 5, 105, 213, 214, 224);

an absorbing agent that performs an absorbing operation for absorbing moisture in passing air whose heat has been absorbed by the heat exchanger functioning as an evaporator and a regenerating operation for desorbing moisture from passing air heated by the heat exchanger functioning as a condenser; and

a controller (2) that performs control such that the absorbing operation and the regenerating operation by the absorbing agent are switched at a predetermined switching time interval,

wherein the controller performs control of the capacity of the compressor and control for changing the switching time interval such that a predetermined load out of a total heat load, which is the sum of the latent heat load and the sensible heat load, the latent heat load, and the sensible heat load is preferentially processed.

2. The air conditioner of claim 1, further comprising an input unit (2a) that allows a user to select the predetermined load.

3. The air conditioner of claim 1, wherein the controller determines a first difference that is a difference between the current capability to process the total heat load and the size of the total heat load, a second difference that is a difference between the current capability to process the latent heat load and the size of the latent heat load, and a third difference that is a difference between the current capability to process the sensible heat load and the size of the sensible heat load, and decides the predetermined load on the basis of the first, second, and third differences.

4. The air conditioner of any of claims 1 to 3, wherein the controller prioritizes changing the throughput of the latent heat load by controlling the capacity of the compressor over changing the throughput of the latent heat load by control for changing the switching time interval when the predetermined load is the latent heat load.

5. The air conditioner of any of claims 1 to 3, wherein the controller prioritizes changing the throughput of the latent heat load by control for changing the switching time interval over changing the throughput of the latent heat load by controlling the capacity of the compressor when the predetermined load is the latent heat load.

6. The air conditioner of any of claims 1 to 3, wherein the controller prioritizes

changing the throughput of the sensible heat load by controlling the capacity of the compressor over changing the throughput of the sensible heat load by control for changing the switching time interval when the predetermined load is the sensible heat load.

7. The air conditioner of any of claims 1 to 3, wherein the controller prioritizes changing the throughput of the sensible heat load by control for changing the switching time interval over changing the throughput of the sensible heat load by controlling the capacity of the compressor when the predetermined load is the sensible heat load.

8. The air conditioner of any of claims 1 to 3, wherein the controller first performs control of the capacity of the compressor when the predetermined load is the total heat load.

9. The air conditioner of any of claims 1 to 3, wherein the controller first fixes the ratio of the throughput of the latent heat load to the throughput of the sensible heat load by controlling the switching time interval and thereafter performs control of the capacity of the compressor when the predetermined load is the total heat load.

10. The air conditioner (10, 210) of any of claims 1 to 9, wherein

the air conditioner includes, as the heat exchanger, a first absorptive heat exchanger (3, 213) and a second absorptive heat exchanger (5, 214) on whose surfaces the absorbing agent is disposed, and

the controller switches between a first state where the air conditioner supplies, to the room, air that has been dehumidified or humidified by the absorbing operation or the regenerating operation by the absorbing agent of the first absorptive heat exchanger and a second state where the air conditioner supplies, to the room, air that has been dehumidified or humidified by the absorbing operation or the regenerating operation by the absorbing agent of the second absorptive heat exchanger.

11. The air conditioner (210) of any of claims 1 to 10, wherein the air conditioner includes the heat exchanger as a utilization heat exchanger (213, 214) and further comprises a heat source heat exchanger (211).

12. The air conditioner of any of claims 1 to 11, wherein the controller performs the control of the capacity of the compressor and the control for changing the switching time interval on the basis of at least any one of the temperature of the evaporator, the pressure of the evaporator, the temperature of the condenser, and the pressure of the condenser.

13. A method of controlling an air conditioner (10, 110, 210, 220) that processes a latent heat load and a sensible heat load in a room by using a vapor compression refrigeration cycle with a compressor (7, 101, 221) and a heat exchanger (3, 5, 105, 213, 214, 224) and using an absorbing agent that performs an absorbing operation for absorbing moisture in passing air

whose heat has been absorbed by the heat exchanger functioning as an evaporator and a regenerating operation for desorbing moisture from passing air heated by the heat exchanger functioning as a condenser, the method comprising:

performing control such that the absorbing operation and the regenerating operation by the absorbing agent are switched at a predetermined switching time interval; and

performing control of the capacity the compressor and control for changing the switching time interval such that a predetermined load out of a total heat load, which is the sum of the latent heat load and the sensible heat load, the latent heat load, and the sensible heat load is preferentially processed.

14. An air conditioner (10, 110, 210, 220) that processes a latent heat load and a sensible heat load in a room by using a vapor compression refrigeration cycle with a compressor (7, 101, 221), the air conditioner comprising:

a heat exchanger (3, 5, 105, 213, 214, 224);

an absorbing agent that performs an absorbing operation for absorbing moisture in passing air whose heat has been absorbed by the heat exchanger functioning as an evaporator and a regenerating operation for desorbing moisture from passing air heated by the heat exchanger functioning as a condenser; and

a controller (2) that performs control such that the absorbing operation and the regenerating operation by the absorbing agent are switched at a predetermined switching time interval,

wherein the controller (2) performs control of the capacity of the compressor (7, 101, 221) and/or control for changing the switching time interval on the basis of at least any one of the temperature of the evaporator, the pressure of the evaporator, the temperature of the condenser, and the pressure of the condenser.

15. The air conditioner (10, 210, 220) of claim 14, wherein the heat exchanger (3, 5, 213, 214, 224) is an absorptive heat exchanger that carries the absorbing agent on its surface.

16. The air conditioner (210, 220) of claim 14 or 15, wherein the air conditioner includes the heat exchanger (213, 214, 224) as a utilization heat exchanger and further comprises a heat source heat exchanger (211, 222).

17. The air conditioner (10, 110, 210, 220) of any of claims 14 to 16, wherein the controller (2) performs the control of the capacity of the compressor and/or the control for changing the switching time interval also on the basis of the humidity of the air in the room.

18. The air conditioner of any of claims 14 to 17, wherein the controller (2) performs the control of the capacity of the compressor and/or the control for changing the switching time

interval also on the basis of the humidity of the air flowing into the room from the heat exchanger. (10, 110, 210, 220)

19. The air conditioner (10, 110, 210, 220) of any of claims 14 to 18, wherein the controller (2) performs the control of the capacity of the compressor and/or the control for changing the switching time interval also on the basis of the temperature of the air flowing into the room from the heat exchanger.

20. A method of controlling an air conditioner (10, 110, 210, 220) that processes a latent heat load and a sensible heat load in a room by using a vapor compression refrigeration cycle with a compressor (7, 101, 221) and a heat exchanger (3, 5, 105, 213, 214, 224) and using an absorbing agent that can perform an absorbing operation for absorbing moisture in passing air whose heat has been absorbed by the heat exchanger functioning as an evaporator and a regenerating operation for desorbing moisture from passing air heated by the heat exchanger functioning as a condenser, the method comprising:

performing control to switch the absorbing operation and the regenerating operation by the absorbing agent at a predetermined switching time interval; and

performing control of the capacity of the compressor and/or control for changing the switching time interval on the basis of any one of the temperature of the evaporator, the pressure of the evaporator, the temperature of the condenser, and the pressure of the condenser.